

Mathematics Objectives: Years 4 & 5

Objective A: Knowing and Understanding

At the end of year 5, students should be able to:

- (i) select appropriate mathematics when solving problems in both familiar and unfamiliar situations
- (ii) apply the selected mathematics successfully when solving problems
- (iii) solve problems correctly in a variety of contexts.

Objective B: Investigating Patterns

At the end of year 5, students should be able to:

- (i) select and apply mathematical problem-solving techniques to discover complex patterns
- (ii) describe patterns as general rules consistent with findings
- (iii) prove, or verify and justify, general rules.

Objective C: Communicating

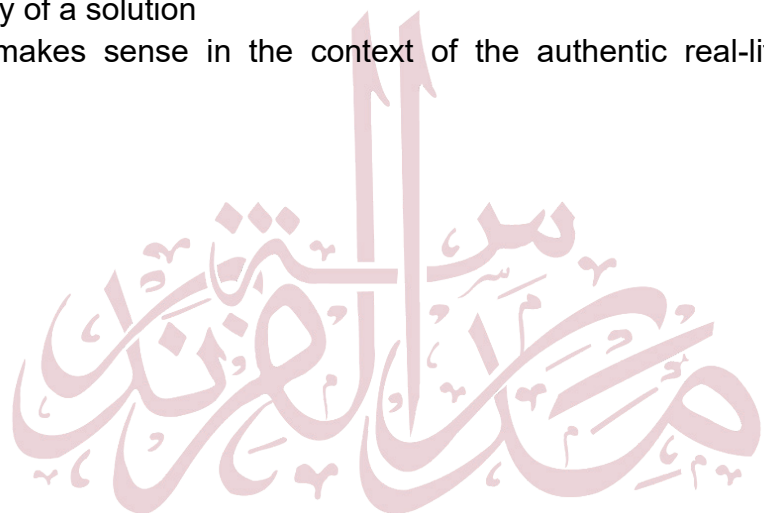
At the end of year 5, students should be able to:

- (i) use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations
- (ii) use appropriate forms of mathematical representation to present information
- (iii) move between different forms of mathematical representation
- (iv) communicate complete, coherent and concise mathematical lines of reasoning
- (v) organize information using a logical structure.

Objective D: Applying mathematics in real-life contexts

At the end of year 5, students should be able to:

- (i) identify relevant elements of authentic real-life situations
- (ii) select appropriate mathematical strategies when solving authentic real-life situations
- (iii) apply the selected mathematical strategies successfully to reach a solution
- (iv) justify the degree of accuracy of a solution
- (v) justify whether a solution makes sense in the context of the authentic real-life situation.

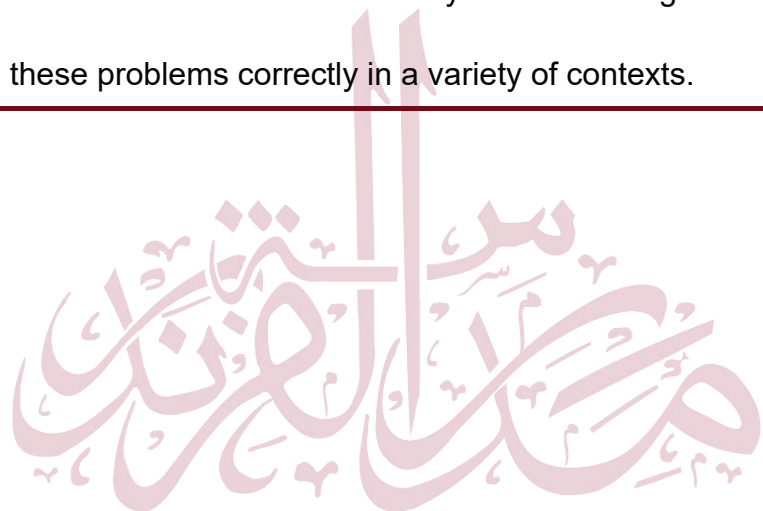


Mathematics Assessment Criteria: Years 4 & 5

Criterion A: Knowing and Understanding

Maximum: 8

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1 – 2	The student: <ol style="list-style-type: none"> select appropriate mathematics when solving simple problems in familiar situations apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.
3 – 4	The student: <ol style="list-style-type: none"> select appropriate mathematics when solving more complex problems in familiar situations apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.
5 – 6	The student: <ol style="list-style-type: none"> select appropriate mathematics when solving challenging problems in familiar situations apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.
7 – 8	The student: <ol style="list-style-type: none"> select appropriate mathematics when solving challenging problems in both familiar and unfamiliar situations apply the selected mathematics successfully when solving these problems generally solve these problems correctly in a variety of contexts.



Mathematics Assessment Criteria: Years 4 & 5

Criterion B: Investigating Patterns

Maximum: 8

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1 – 2	The student: <ol style="list-style-type: none"> apply, with teacher support, mathematical problem-solving techniques to discover simple patterns state predictions consistent with simple patterns <i>(not demonstrated at this level).</i>
3 – 4	The student: <ol style="list-style-type: none"> apply mathematical problem-solving techniques to recognize simple patterns suggest general rules consistent with findings <i>(not demonstrated at this level).</i>
5 – 6	The student: <ol style="list-style-type: none"> Select and apply mathematical problem-solving techniques to discover complex patterns describe patterns as general rules consistent with findings verify the validity of these general rules.
7 – 8	The student: <ol style="list-style-type: none"> select and apply mathematical problem-solving techniques to recognize complex patterns describe patterns as general rules consistent with correct findings prove, or verify and justify, these general rules.



Mathematics Assessment Criteria: Years 4 & 5

Criterion C: Communicating

Maximum: 8

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1 – 2	The student: <ol style="list-style-type: none"> use limited mathematical language use limited forms of mathematical representation to present information <i>(not demonstrated at this level)</i> communicate through lines of reasoning that are difficult to interpret <i>(not demonstrated at this level)</i>.
3 – 4	The student: <ol style="list-style-type: none"> use some appropriate mathematical language use appropriate forms of mathematical representation to present information adequately <i>(not demonstrated at this level)</i> communicate through lines of reasoning that are complete adequately organize information using a logical structure.
5 – 6	The student: <ol style="list-style-type: none"> usually use appropriate mathematical language usually use appropriate forms of mathematical representation to present information correctly usually move between different forms of mathematical representation communicate through lines of reasoning that are complete and coherent present work that is usually organized using a logical structure.
7 – 8	The student: <ol style="list-style-type: none"> consistently use appropriate mathematical language use appropriate forms of mathematical representation to consistently present information correctly move effectively between different forms of mathematical representation communicate through lines of reasoning that are complete, coherent and concise present work that is consistently organized using a logical structure.

Mathematics Assessment Criteria: Years 4 & 5

Criterion D: Applying mathematics in real-life contexts

Maximum: 8

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1 – 2	<p>The student:</p> <ul style="list-style-type: none"> i. identify some of the elements of the authentic real-life situation ii. <i>(not demonstrated at this level)</i> iii. apply mathematical strategies to find a solution to the authentic real-life situation, with limited success iv. <i>(not demonstrated at this level)</i> v. <i>(not demonstrated at this level)</i>.
3 – 4	<p>The student:</p> <ul style="list-style-type: none"> i. identify the relevant elements of the authentic real-life situation ii. select, with some success, adequate mathematical strategies to model the authentic real-life situation iii. apply mathematical strategies to reach a solution to the authentic real-life situation iv. <i>(not demonstrated at this level)</i> v. discuss whether the solution makes sense in the context of the authentic real-life situation.
5 – 6	<p>The student:</p> <ul style="list-style-type: none"> i. identify the relevant elements of the authentic real-life situation ii. select adequate mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to reach a valid solution to the authentic real-life situation iv. explain the degree of accuracy of the solution v. explain whether the solution makes sense in the context of the authentic real-life situation.
7 – 8	<p>The student:</p> <ul style="list-style-type: none"> i. identify the relevant elements of the authentic real-life situation ii. select appropriate mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to reach a correct solution to the authentic real-life situation iv. justify the degree of accuracy of the solution v. justify whether the solution makes sense in the context of the authentic real-life situation.